

## REMARKS

### Status of the Application

In the Office Action, Claims 1-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over West *et al.* (U.S. Patent 6,438,493) (“West”) in view of Doyle *et al.* (U.S. Patent 5,504,479) (“Doyle”). In this Amendment, claims 1, 3, 8 and 10 have been amended. Therefore, claims 1-14 are presented for examination. No new subject matter has been added by the amendments. Examination of claims 1-14 as amended is respectfully requested.

### 35 U.S.C. §103 Rejections

As amended, independent claims 1, 3, 8 and 10 claim systems and methods for inferring geological classes, wherein the geological classes comprise lithology, rock type and/or petrophysical properties.

The West reference discloses a method for interpreting seismic data so as to identify, characterize and map seismic facies. (*See, e.g.*, West, Col. 1, ll. 9-11 and Col. 3, ll. 9-17). As persons of skill in the art are aware and as provided by standard definition, the term “seismic” means “subject to or caused by an earthquake or earth vibration.” (*See, e.g.*, Dictionary.com). Thus, West relates to methods for processing vibrational data (seismic data). As provided in West, the vibrational data is processed to identify, map and characterize seismic facies, wherein the seismic facies are reflectors of vibrations. (*See, e.g.*, West, Col. 4, ll. 10-19). Consequently, the method of processing seismic data in West provides for characterizing, identifying and mapping seismic facies, which, *a priori*, comprises mapping the reflectors, identifying the presence of the reflectors and determining the characteristics (texture) of the reflector; where the texture is the quantitative measure of the reflection amplitude from the reflector, continuity of the reflector and internal configuration of the reflector. (*See, e.g.*, West, Col. 4, ll. 10-29). West concerns using seismic data to analyze seismic reflectors. West provides no teaching, no mention nor any suggestion regarding inferring lithology, rock type or petrophysical properties from downhole logs.

The Doyle reference teaches an apparatus for communicating signals from a well logging tool to a recording unit. (*See Doyle, Abstract*). Doyle provides no teaching or

suggestion regarding inferring lithology, rock type or petrophysical properties from downhole logs.

Consequently, Applicants respectfully submit that the West and Doyle references, whether considered individually or in combination, do not teach all of the limitations of independent claims 1, 3, 8 and 10 as amended. Therefore, Applicants respectfully request that the Section 103 rejections of independent claims 1, 3, 8 and 10 and the claims that depend from these claims be withdrawn.

### CONCLUSION

Applicants believe that the present application as amended is now in proper condition for allowance. Such allowance is earnestly requested. If the Examiner is contemplating any action other than allowance of all pending claims, the Examiner is urged to contact Applicant's representative, James McAleenan, at (617) 768-2421.

In the event any fees are due with regard to this application, the Commissioner is hereby authorized to charge Deposit Account No. 19-0615 the requisite amount.

Respectfully submitted,

  
James McAleenan  
Registration No. 56,820

February 13, 2008

Schlumberger Technology Corporation  
c/o Schlumberger Doll Research  
IP Law Department  
PO Box 425045  
Cambridge, MA 02142  
Phone: (617) 768-2421  
Fax: (617) 768-2402